

LONG ISLAND BOTANICAL SOCIETY NEWSLETTER

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Rediscovery of Northern Tubercled Orchid at Wetland Restoration Site on Long Island, New York

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(Nassau County Museum, Natural History Bureau)

It is very obvious to all of us who visit or work in natural areas, that not all sites threatened with invasive plants such as *Phragmites australis* can be restored. There are, though, small parcels of land whose potential for restoration become immediately evident based on their intrinsic beauty and value. Tiffany Creek Preserve's Flagg Meadow is just such a place. This preserve, located in Oyster Bay Cove, was acquired in 1993 by the Nassau County Department of Recreation and Parks. As a natural areas manager, I was impressed on my first visit to Flagg Meadow by its rich flora, including several plants that I considered to be uncommon in Nassau County's preserve system. Turk's-cap Lily (*Lilium superbum*), Canadian Burnet (*Sanguisorba canadensis*) and New York Ironweed (*Vernonia noveboracensis*) make impressive showings in their seasons, and large clonal groups of Osmundid ferns dominate parts of the wet meadow. But two factors

threatened this beautiful wet meadow's existence. The meadow was slowly filling in with Red Maple (*Acer rubrum*), and the Turk's-cap Lily and Osmundid ferns were being overtaken by a one-acre stand of *Phragmites australis* in the meadow's center. It was evident that if we wanted to preserve this habitat, the invasives had to be eradicated and succession be put in check. To accomplish these goals, we instituted an on-going management plan for this nine-acre wet meadow. The Flagg Meadow Restoration Project has rewarded us with not only the restoration of this beautiful section of Tiffany Creek Preserve but with some interesting botanical finds as well.

Earlier this season (1999) as I conducted a field check to determine the rate of sprout of the *Phragmites* population after last year's management work, I noticed orchid leaves coming up in a section of the meadow. Until this season, this section contained a moderately dense stand of *Phragmites*



Northern Tubercled Orchid

Illustration by Vera Ming Wong
from *Orchids of Minnesota*, by Welby R. Smith (1993)

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interspersed with desirable wet meadow vegetation. The orchid leaves, which didn't look familiar, had been hidden under the dense *Phragmites*. With the removal of this cover, the orchids and other plants of the wet meadow flora were now thriving.

As the orchids continued to grow, I became increasingly convinced that this was a species I had not seen before. When the plants began to flower, I learned that we had a population of the Northern Tubercled Orchid (*Platanthera flava* var. *herbiola*). This species is a secretive, grass-green orchid growing from 4 to 12 inches tall. The spicate inflorescence is laxly to densely flowered with 10 to 40 yellow-green flowers (Luer, 1975). Occurring throughout the northeast, the Northern Tubercled Orchid thrives in wet meadows, banks and floodplains. The common name refers to the rounded fin-like tubercle (a small projection, or bump) at the base of the flower's lip, which guides the plant's pollinators (mosquitos of the genus *Aedes*) to the nectaries. It seems that where this orchid occurs, it often occurs in large populations. We have determined that the population at Flagg Meadow exceeds 300 individuals, thanks to the censusing efforts of L.I.B.S. members Skip Blanchard, Barbara Conolly, Lois Lindberg and Betty Lotowycz. The species is relatively common in the Adirondacks (Young, 1999); however, Brown (1997) states that although large, stable populations have been located in several states, it is by no means common or even frequent. It is still listed as a species of special concern or threatened in each state throughout its range.

The Northern Tubercled Orchid is a true Long Island rarity. Prior to its discovery at Flagg Meadow, it had not been collected or reported from Long Island since 1927, when Roy Latham collected it at Montauk. In his 1996 publication, *Atlas of the Orchids of Long Island, New York*, Eric Lamont listed only six other Long Island collections (Queens, 1864, *Calverley*; New Lots, 1889, *Zabriskie*; Baldwin, 1899, *Hamilton*; Woodmere, 1903, *Bicknell*; Mineola, 1916, *Latham*; Orient, 1925, *Ferguson*). These collections were mostly from locations in Kings, Queens, and central and southwestern Nassau counties, populations which may no longer be extant.

While finding such rarities is one reward of the Flagg Meadow Restoration Project, our work continues. Since the project was last reported on in this newsletter (Lindberg, 1997), we have removed 90% of the *Acer rubrum*; with the Red Maple gone the area has taken on a more definite meadow appearance.

The *Phragmites australis* population, which in 1997 had been reduced from 390 to 75 stems per square meter, has further diminished to 0 to 8 stems per square meter in 85% of the stand. The high count is now only 18 stems per square meter in 15% of the stand. This reduction was

accomplished with a change of management techniques. Our stress mowing and cutting of the *Phragmites* worked admirably well to reduce the population numbers. As the *Phragmites* decreased in density the amount of desirable wet meadow vegetation increased markedly and we found that we were equally stressing the very plants we were trying to restore. In an effort to solve this problem we developed a variation on a technique used by the Massachusetts Department of Environmental Management at Kampoosa Bog (Garnet, 1998). The *Phragmites* plants mixed in with desirable vegetation were segregated and tied in bundles of up to 50 stems with 7.5 inch electrical cable ties. The bundles were then cut above the tie, baffled to protect surrounding vegetation, and the glyphosate herbicide Roundup containing a dye marker was selectively applied by low pressure sprayer. Individual stems that could not be bundled were cut and treated with the same solution in 50cc and 20cc syringes, dripping the solution into the cut stem (Nature Conservancy, 1993). The results of these applications were remarkable and reduced the previously stressed population substantially. Our stress management technique coupled with chemical control has brought us within sight of eradication of the *Phragmites* population. With several more seasons of spot control and a sound management program, Flagg Meadow will be restored.

There are ten species of orchids previously known to occur on Long Island that have not been reported during the past 60 years, and three other species have not been reported in over 100 years (Lamont, 1996). These species and other state historic plants may well be located in small habitat remnants throughout Long Island. While the protection and restoration of small parcels of quality habitats such as Flagg Meadow are rewarding to natural areas managers and pleasing to the public eye, they may well be key to preserving remnants of our historic flora and fauna.

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More Plants of the Rare Nantucket Juneberry Discovered on the South Fork

Stephen Young & Troy Weldy
(New York Natural Heritage Program)

On a trip to the South Fork of Long Island this past spring, we discovered more than twice as many individual plants of Nantucket Juneberry (*Amelanchier nantucketensis*) than was previously known. More than 100 plants are now known from Shinnecock Hills to the Montauk area.

Nantucket Juneberry can be distinguished from its close relatives by its rhizomatous stems of short stature (usually under 1 meter tall) and short, narrow, often curled petals (3 to 5 mm long by 1.3 to 2.1 mm wide) that bear pollen on the curled edges (andropetaly). Dwarf Juneberry (*Amelanchier spicata*, previously known as *A. stolonifera*) is very similar but the petals are larger and flat without pollen.

Nantucket Juneberry is a globally rare plant that occurs in open sandplain grasslands, morainal heathlands and pitch pine-scrub oak barrens from Nova Scotia and Maine south to Nantucket and Martha's Vineyard to Long Island's South Fork. There is also one location on Staten Island and an unverified report from Great Falls, Maryland.

Field Trips

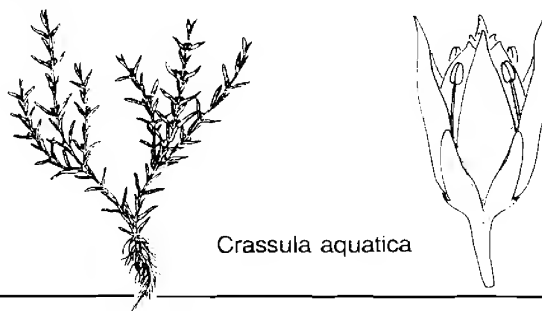
28-29 August 1999 (Saturday & Sunday). A joint LIBS/NYFA Botany Field Trip Weekend.

Leader: **Bob Zaremba**. Day 1. We will be meeting at the entrance to South Haven Park off Victory Avenue (Exit 57 off Sunrise Highway east) at 10 am and spend the day visiting a series of sites along the Carmans River, including the small freshwater tidal stream outlet with the only Long Island occurrence of Water Pigmyweed (*Crassula aquatica*, previously known as *Tillaea aquatica*), the dam pond, and several coldwater stretches of the river. The day's goal will be to develop a species list of instream plants. Bring your aquatics keys!! That night we have arranged housing at the Mashomack

Preserve Manorhouse on Shelter Island. There will be a charge. Day 2. Sunday morning we will monitor a series of rare plant sites on the preserve and meet others at the Crooked Pond parking area off Widow Gavitts Road/Toppings Path in Southampton at 11 am to visit a series of coastal plain ponds. Sunday's visit will remain fluid and can change depending on the interests of the group. For information, contact **Bob Zaremba** at 518-273-9408 ext 226 or at rzaremba@tnc.org. Bob will definitely need to know ahead of time if you are interested in staying at Mashomack.

11 September 1999 (Saturday), 9:30am. The Paul Simons Memorial Preserve, Head of the Harbor (just west of the Stony Brook duck pond/mill), Suffolk County. Leader: **Tom Meoli**. Join members of the LIBS Flora Committee as they conduct an autumn floristic inventory of the preserve. This trip is a follow-up to our May 1998 visit. A highlight will be a large area that has been cleared of alien invasives which will be replanted with native species. Directions: From the LIE (Rte. 495) or Nesconset Hwy (Rte. 347) go north on Nicolls Road (C.R. 97) to end. Turn left on Rte. 25A heading west to Main Street, Stony Brook (light). Turn right on Main Street and then make left after duck pond onto Harbor Road. Make second left onto Shep Jones Lane and continue to small parking area on right before bend in the road. For further info please call **Tom Meoli** at 516-427-9458.

25 September 1999 (Saturday), 10:00am to 2:00pm. Abandoned Cranberry Bogs in the vicinity of Riverhead, Suffolk County. Leader: **John Turner**. Visit Long Island's last commercial cranberry bogs (abandoned in 1974) and observe the processes of ecological succession that have take place during the past 25 years. Meet at Exit 49 Park & Ride of the Long Island Expressway for carpooling from the west. We will meet at 10:00am at the Pine Barrens Visitor Center near Exit 70 of the LIE. Take Exit 70 and make a left (heading north) if coming from the west. The Visitor Center is on the right side of the road about 200-300 yards north of the LIE. We will tour the Davis Bog in Manorville, Brown's Bog in Peconic and the Woodhull marsh in Riverhead. For further info please call **John Turner** at 516-829-3368 (work).



Crassula aquatica

LONG ISLAND BOTANICAL SOCIETY

Founded: 1986; Incorporated: 1989.

The Long Island Botanical Society is dedicated to the promotion of field botany and a greater understanding of the plants that grow wild on Long Island, New York.

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Membership

Membership is open to all, and we welcome new members. Annual dues are \$10. For membership, make your check payable to LONG ISLAND BOTANICAL SOCIETY and mail to: Lois Lindberg, Membership Chairperson, 45 Sandy Hill Road, Oyster Bay, NY 11771-3111

PROGRAMS

14 September 1999 - 7:30 pm*

Dr. Robert Zaremba

(The Nature Conservancy)

**"Long Island Biodiversity in the Context of
Northeastern Coastal Systems:**

A New TNC Perspective on

Conservation Planning"

Location: Bill Patterson Nature Center, Muttontown
Preserve, East Norwich.

12 October 1999 - 7:30 pm*

Dr. Marilyn Jordan

(The Nature Conservancy)

**"A Conceptual Ecological Model for the Long
Island Pine Barrens:**

A Guide for Land Management"

Location: Bill Patterson Nature Center, Muttontown
Preserve, East Norwich.

*Refreshments & informal talk begin at 7:30pm, the
meeting starts at 8pm. For directions to Muttontown
Preserve please call 516-571-8500.

LONG ISLAND BOTANICAL SOCIETY

c/o Muttontown Preserve

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East Norwich, New York 11732

